

REMARKS

Claims 1-21 were examined and reported in the Office Action. Claims 1-4, 6-7, and 9-21 are rejected. Claims 1, 2 and 5 are amended. New claims 22-25 are added. Claims 1-25 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. 35 U.S.C. § 102(b)

A. It is asserted in the Office Action that claims 1-4, 6-7, 9-10 and 14 are rejected under 35 U.S.C. § 102(b), as being anticipated by U. S. Patent No. 3,919,710 issued to Fletcher et al. ("Fletcher"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, *i.e.*, identity of terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990))."

Applicant's amended claim 1 contains the limitations of "[a]n electromagnetic probe, comprising at least one assembly comprising in combination: a coaxial type connection; a ground plane connected to the outer sheath of the coaxial connection; a reflector cone placed facing the ground plane and shaped to define impedance that is at least substantially constant along its profile, said reflector being electrically isolated, and a dielectric medium interposed at least in part between the reflector cone and the ground plane. "

Fletcher discloses a turnstile and flared cone UHF antenna that includes truncated cone means 12. According to Fletcher means 14, which is asserted in the Office Action as similar to the reflector cone of Applicant's claimed invention, is electrically connected to cone base plate 16 via feed support means 24 and is also connected to center conductor means 26 via the conductive tab means. In contrast, according to Applicant's claimed invention the reflector cone, which is placed facing the ground plate, is electrically isolated.

It is asserted in the Office Action that Fletcher discloses "a reflector cone [14] placed facing the ground plane [16] and shaped to define impedance that is at least substantially constant along its profile [lines 3-6 of column 3]." (Office Action, page 3, item 7). Applicant respectfully traverses. Column 3, lines 3-6 of Fletcher asserts that "[a]pproximate diameters are selected for feed support 24 and center conductor 26 so that the characteristic impedance of the feed support closely matches the feed - point impedance of the turnstile antenna. Therefore, Fletcher clearly teaches that the impedance between center conductor 26 and feed support 24 is equal to the input impedance of turnstile antenna 14. Fletcher, however, does not teach, disclose or suggest that the profile of means 14 should be adapted to define an impedance that is substantially constant, in regard of the ground plane, over all of the profile of means 14, unlike Applicant's claimed invention.

Moreover, cone base plate 16 of Fletcher can not be compared to ground plane 250 of Applicant's claimed invention. Indeed, ground plane 250 of Applicant's claimed invention is essentially plane. Ground plane 250 only comprises central sleeve 200 connected to the central part of plane 250. In contrast, base plate 16 of Fletcher is a part of the truncated cone means 12 and is provided with cone sides 18. Further, means 14 of Fletcher can not be compared to reflector cone 200 of Applicant's claimed invention. That is, means 14 of Fletcher only includes antenna arms radially attached to the feed support means 24.

Applicant attaches sketch 1 that includes drawings that summarize the main differences between Applicant's claimed invention and Fletcher. According to Fletcher, truncated cone sides 18 and petals 20 are connected to the external part of base plate 16.

Applicant's amended Claim 2 contains limitations asserting that sleeve 200 is connected to the central part of ground plane 250. Therefore, Applicant's amended claim 2 is not anticipated by Fletcher.

Applicant's Claim 4 contains limitations asserting that the probe is circularly symmetrical about a central axis. According to Fletcher, however, means 14 includes antenna arms 36, 38, 40 and 42. Consequently, means 14 of Fletcher is clearly not circularly symmetrical about a central axis.

Therefore, since Fletcher does not disclose, teach or suggest all of Applicant's amended claim 1 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. § 102(b) has not been adequately set forth relative to Fletcher. Thus, Applicant's amended claim 1 is not anticipated by Fletcher. Additionally, the claims that directly or indirectly depend on claim 1, namely claims 2-4, 6-7, 9-10 and 14, are also not anticipated by Fletcher for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 102(b) rejections for claims 1-4, 6-7, 9-10 and 14 are respectfully requested.

B. It is asserted in the Office Action that claim 1 is rejected under 35 U.S.C. § 102(b), as being anticipated by U. S. Patent No. 4,608,572 issued to Blakney et al. ("Blakney"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Blakney discloses a broad-band antenna structure including an antenna driven element 12 and a ground plane 14. Antenna driven element 12 is typically a broad-band spiral-type multi-arm. (See Blakney, column 6, lines 17-18). As indicated in Blakney, "[a]rms 12a - 12f of antenna element 12 are fed at the center of the spiral array by an antenna feed and mode select subsystem 15 that is coupled to the individual arms 12a - 12f." (Blakney, column 6, lines 34-39 and column 11 lines 46-48). Therefore, antenna driven element 12 of Blakney is electrically connected and not electrically isolated as is the case for reflector cone 100 of Applicant's claimed invention.

Moreover ground plane 14 of Blakney is distinguishable from ground plate 250 in Applicant's claimed invention. The ground plane of Blakney includes progressively

sized circumferential chokes 16. Chokes 16 may be partially shunted by shunting strips 20 that electrically or capacitively bridge the choke walls. According to Applicant's claimed invention the ground plane comprises a plate provided with a sleeve in its central portion. Applicant kindly directs attention to attached sketch II, which summarizes the main differences between Applicant's claimed invention and Blakney.

Therefore, since Blakney does not disclose, teach or suggest all of Applicant's amended claim 1 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. § 102(b) has not been adequately set forth relative to Blakney. Thus, Applicant's amended claim 1 is not anticipated by Blakney.

Accordingly, withdrawal of the 35 U.S.C. § 102(b) rejections for claim 1 are respectfully requested.

II. 35 U.S.C. § 103

A. It is asserted in the Office Action that Claim 11 is rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Fletcher in view of Blakney. Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2142 "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Further, according to MPEP §2143.03, "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974))." "*All words in a claim must be considered in judging the patentability of that claim against the prior art.*" (*In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicant's amended claim 1 contains the limitations of "[a]n electromagnetic probe, comprising at least one assembly comprising in combination: a coaxial type connection; a ground plane connected to the outer sheath of the coaxial connection; a reflector cone placed facing the ground plane and shaped to define impedance that is at least substantially constant along its profile, said reflector being electrically isolated, and a dielectric medium interposed at least in part between the reflector cone and the ground plane. "

Applicant claim 11 depends on Applicant's amended claim 1. Applicant has discussed claim 1 regarding Fletcher and Blakney above in sections I(A) and I(B), respectively. Fletcher clearly does not disclose a sleeve made up of a plurality of cylinders. Blakney discloses chokes 16 made by a plurality of *n* progressively sized circumferential and coaxial slots in the surface of conductive conical wall 14a and opening toward antenna element 12. (See Blakney, figure 3 and column 8, lines 28 -48). In other words, chokes 16 of Blakney are made by a plurality of cylindrical walls 26 connected at their bases by transverse bottom walls 28. Blakney, however, does not disclose, teach or suggest limitations of a sleeve made by a plurality of cylinders, as contained in claim 11.

Therefore, even if Fletcher were combined with Blakney, the resulting invention would still not include all of Applicant's claimed limitations. And, therefore, there would be no motivation to combine Fletcher with Blakney. Thus, Applicant's amended claim 1 is not obvious over Fletcher in view of Blakney since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that indirectly depends from amended claim 1, namely claim 11, would also not be obvious over Fletcher in view of Blakney for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for Claim 11 are respectfully requested.

B. It is asserted in the Office Action that Claim 12 is rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Fletcher as applied in claim 1

above and further in view of U. S. Patent No. 5,467,095 issued to Rodal et al ("Rodal"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's claim 12 directly depends on amended claim 1. Applicant has addressed claim 1 regarding Fletcher above in section I(A).

Rodal discloses an antenna having a ground plane and a radiating element supported in electrically insulated closely spaced-apart relation to the ground plane. Neither Rodal nor Fletcher, however, disclose, teach or suggest "a ground plane connected to the outer sheath of the coaxial connection; a reflector cone placed facing the ground plane and shaped to define impedance that is at least substantially constant along its profile, said reflector being electrically isolated, and a dielectric medium interposed at least in part between the reflector cone and the ground plane."

Therefore, even if Fletcher were combined with Rodal, the resulting invention would still not include all of Applicant's claimed limitations. And, therefore, there would be no motivation to combine Fletcher with Rodal. Thus, Applicant's amended claim 1 is not obvious over Fletcher in view of Rodal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that directly depends from amended claim 1, namely claim 12, would also not be obvious over Fletcher in view of Rodal for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for Claim 12 are respectfully requested.

C. It is asserted in the Office Action that Claims 17-21 are rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Fletcher as applied in claim 1 above, and further in view of U. S. Patent No. 6,084,551 issued to Aslan et al ("Aslan"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's claims 17-21 either directly or indirectly depend on amended claim 1. Applicant has addressed claim 1 regarding Fletcher above in section I(A).

Aslan discloses an electromagnetic probe including a quasi-isotropic E-field antenna and a quasi-isotropic H-field antenna. Neither Aslan nor Fletcher, however,

disclose, teach or suggest "a ground plane connected to the outer sheath of the coaxial connection; a reflector cone placed facing the ground plane and shaped to define impedance that is at least substantially constant along its profile, said reflector being electrically isolated, and a dielectric medium interposed at least in part between the reflector cone and the ground plane."

Therefore, even if Fletcher were combined with Aslan, the resulting invention would still not include all of Applicant's claimed limitations. And, therefore, there would be no motivation to combine Fletcher with Aslan. Thus, Applicant's amended claim 1 is not obvious over Fletcher in view of Aslan since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claim 1, namely claims 17-21, would also not be obvious over Fletcher in view of Aslan for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for Claims 17-21 are respectfully requested.

D. It is asserted in the Office Action that Claims 1, 3, 13 and 15-16 are rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Kobuchi (JP02-121505) in view of Fletcher. Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's claims 13, 13 and 15-16 either directly or indirectly depend on amended claim 1. Applicant has addressed claim 1 regarding Fletcher above in section I(A).

Kobuchi discloses a unidirectional antenna including coaxial feeding line 11, having center conductor 7, dielectric disk 1 provided with a microstrip antenna conductor 2, and truncated metallic cone 5. A portion near the center of conductor 2 is connected to center conductor 7 at connection point 3. Moreover the upper end center of metallic cone 5 is connected to conductor 2 at connection point 9, while the upper end part of cone 5' is connected to external conductor 6 of line 11, at connection point 12. Therefore, Kobuchi teaches to electrically connect the microstrip antenna conductor 2,

and cones 5 and 5' to a part of coaxial feeding line 11 (either center conductor 7 or external conductor 6).

As asserted above Fletcher teaches to electrically connect both base plate 16 and arms 38 and 40 to a part of the connector means. Thus, the combination of Fletcher and Kobuchi could only lead to a device wherein all the elements are electrically connected. Therefore, the combination of Fletcher and Kobuchi can not result in a device wherein a reflector cone is electrically isolated, as it is the case according to Applicant's claimed invention.

Therefore, even if Fletcher were combined with Kobuchi, the resulting invention would still not include all of Applicant's claimed limitations. And, therefore, there would be no motivation to combine Fletcher with Kobuchi. Thus, Applicant's amended claim 1 is not obvious over Fletcher in view of Kobuchi since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claim 1, namely claims 3, 13 and 15-16, would also not be obvious over Fletcher in view of Kobuchi for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for Claims 1, 3, 13 and 15-16 are respectfully requested.

III. Allowable Subject Matter

Applicant notes with appreciation the Examiner's assertion that claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has amended Claim 5 to include the limitations of claim 1. New Claims 22, 23, 24 and 25 respectively correspond to initial claims 2, 4, 12 and 13, and depend on Claim 5

Applicant respectfully asserts that claims 1-25, as it now stands, are allowable for the reasons given above.

IV. Request for Refund

Applicant asserted in a REQUEST FOR CORRECTION OF U.S. PATENT AND TRADEMARK OFFICE RECORDS filed on April 22, 2004, and previous correction request filed on November 3, 2003 to correct the attorney of record data. Applicant did not receive a response to the filed requests to associate Applicant with Customer No. 08791. Applicant also requested re-setting of the response due date regarding the Office Action mailed February 23, 2004 as it was mailed to Skjerven Morrill MacPherson L.L.P., who are no longer in business. Moreover, Applicant notes that the USPTO had changed the attorney of record on the Notice of Recordation of Assignment mailed on June 11, 2002, then reverted in the Office Action mailed on June 30, 2003.

Applicant submits extension fees in order to prevent abandonment of the Application but respectfully requests a refund due to the USPTO not updating the attorney of record information and non-response to the request for re-setting the response to Office Action due date.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-25 patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

PETITION FOR EXTENSION OF TIME

Per 37 C.F.R. 1.136(a) and in connection with the Office Action mailed on February 23, 2004, Applicant respectfully petitions the Commissioner for a three (3) month extension of time, extending the period for response to August 23, 2004. The Commissioner is hereby authorized to charge payment to Deposit Account No. 02-2666 in the amount of \$950.00 to cover the petition filing fee for a 37 C.F.R. 1.17(a)(3) large entity. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Dated: August 23, 2004

By: _____

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on August 23, 2004.

Jean Svoboda